AMENDMENTS TO THE SPECIFICATION:

(1) Please amend the paragraph on page 1, lines 19-26, as follows:

For instance, in US 5,136,268, a dual mode microstrip resonator usable in the design of microwave communication filters is disclosed. The substantially square resonator provides paths for a pair of orthogonal signals, which are coupled together using a perturbation located in at least one corner of the resonator. The perturbation can be introduced by notching the resonator or by adding a metallic or dielectric stub to the resonator.

(2) Please amend the paragraph on page 1, lines 27-33, as follows:

The Applicant has observed that the above described filter ~~above described~~ can have problems due to the fact that electric current tends to concentrate at the corners of the resonator to considerably increase resistance loss therein. This can lead to a degradation of the Q-value of the resonator and therefore and increased loss in the filter.

(3) Please amend the paragraph beginning on page 1, line 34, and ending on page 2, line 12, as follows:

In US 5,172,084, planar dual mode filters are formed by a conductive resonator having circular symmetry and two pairs of symmetrically oriented planar conductive leads. The conductive leads are aligned colinearly with two orthogonal diameters of the circular conductive resonator. A perturbation located on a region axis oriented symmetrically with respect to the two pairs of conductive leads couples electromagnetic modes which are injected into the resonator by the planar conductive leads. Higher order filter circuits can be realized by combining multiple

filters. The filters are amenable to printed circuit (microstrip [[to]] or stripline) fabrication using superconductors for the conductive elements.

(4) Please amend the paragraph on page 2, lines 13-18, as follows:

However, the Applicant has also observed that ~~also~~ these type of filters can have problems due to the fact that an excessive concentration of electric current can occur at the edges of the perturbation, leading to a degradation of the Q-value of the resonator and increased loss in the filter.

(5) Please amend the paragraph on page 2, lines 19-25, as follows:

In US 6,239,674, a resonator having high Q-value is disclosed. The resonator has a compact structure with little loss caused by the conductor's resistance. The conductor of elliptical shape forming the resonator has two points along its circumference at which both of the two orthogonal resonating modes of the resonator are excited equally.

(6) Please amend the paragraph beginning on page 2, line 32, and ending on page 3, line 1, as follows:

The Applicant faced the problem of realizing a planar filter in which the coupling between the resonating modes can be easily obtained thereby maintaining high Q-values and low loss.

(7) Please amend page 3, lines 19-32 as follows:

- a planar resonator including a conductive region supporting a first resonating mode propagating along a first conductive path, [[said]] the conductive region being smoothed contour shaped region; and

- a conductor-free region made in [[said]] the conductive region;

wherein [[said]] the conductor-free region is a smoothed contour shaped region symmetrically disposed along a region axis forming an angle θ with respect to [[said]] the first conductive path.

According to a further aspect of the present invention, there is provided a receiver front-end for use in a transceiver station of a wireless communication network, [[said]] the receiver front-end comprising:

(8) Please amend the paragraph on page 5, lines 17-21, as follows:

In the remainder of the present description and claims we shall define as "edge significantly rounded" an edge having for example a bending radius in the range of about 10% [[÷]] to 30% of the mean value of the polygon side lengths.

(9) Please amend the paragraph on page 6, lines 20-27, as follows:

In particular, at $\theta = 0^{\circ} \pm \pi/2$ no coupling is observed between the two orthogonal resonating modes. In this condition, the tuning of each resonating mode can be obtained independently, by varying the conductor-free region diameters ratio Dmax/Dmin. In both cases the planar resonator 1 operates as a single mode planar resonator. As shown in figure 2, in this case the conductor-free region 5 can be a circular shaped region. Reference symbols used in Fig. 2 are otherwise consistent with those used in Fig. 1 and will not be re-described.

(10) Please amend the paragraph on page 7, lines 3-9, as follows:

However, ~~tuning selectively~~ selectively tuning the two orthogonal resonating modes is possible by varying the aspect ratio of the conductive region 2. In particular, the resonating

mode represented by vector 3 can be tuned by varying the side length l_1 of the conductive region 2, while the resonating mode represented by vector 4 can be tuned by varying the side length l_2 of the conductive region 2.

(11) Please amend the paragraph on page 8, lines 8-18, as follows:

Planar conductive lead 7 can act as input terminal of the dual mode planar resonator 1 while planar conductive lead a can act as output terminal. In this condition, high frequency signals are coupled into the dual mode planar resonator 1 from planar conductive lead 7 through gap C1 <u>(Fig. 1)</u> or tap T1 <u>(Fig. 3)</u>. Similarly, high frequency signals are coupled out of the dual mode planar resonator 1 to the planar conductive lead 8 through gap C2 <u>(Fig. 1)</u> or tap T2 <u>(Fig. 3)</u>. Alternatively, planar conductive lead a can act as input terminal of the dual mode planar resonator 1 while planar conductive lead 7 can act as output terminal.

(12) Please amend the paragraph on page 8, lines 19-22, as follows:

With reference to figures 1, 2 and 3 in operation, a high frequency signal entering dual mode planar resonator 1 through planar conductive lead 7 and gap C1 <u>(Fig. 1)</u>, or tap T1 <u>(Fig. 3)</u>, introduces a first mode resonating along vector 3 <u>(Fig. 1)</u>.

(13) Please amend the paragraph on page 8, lines 23-27, as follows:

Conductor-free region 5 causes a perturbation of the current flow resulting in a coupling to the mode resonating along vector 4 <u>(Fig. 1)</u>. Planar conductive lead 8 is used to extract the coupled high frequency signal from the dual mode planar resonator 1.

(14) Please amend the paragraph on page 9, lines 15-24, as follows:

Advantageously, in both the embodiments of the present invention, the conductive region 2, 21 can be made by a high-temperature oxide superconductor represented by: [[an]] a yttrium (Y) family superconductor such as $YBa_2CU_3O_x$ or the like; a bismuth (Bi) family superconductor such as $Bi_2Sr_2Ca_2Cu_3O_x$ or the like; a thallium ~~(Tl)~~ (Tl) family superconductor such as ~~$Tl_2Ba_2CaCu_2O_x$~~ $Tl_2Ba_2CaCu_2O_x$ or the like; a metallic superconductor such as Nb or the like. Less preferably, by an ordinary conductor such as gold, copper, etc.

(15) Please amend the paragraph on page 11, lines 1-5, as follows:

Specifically, at a frequency of about 2 GHz, with a dielectric slab having a dielectric constant of about 24 and a thickness of about [[0,5]] 0.5 mm, each planar resonator 34, 35 can have side lengths l_1, l_2 in the range of about 10 [[÷]] to 15 mm.

(16) Please amend the paragraph on page 12, lines 16-29, as follows:

Specifically, figure 7 shows the reflection characteristic with respect to the frequency of the dual mode planar resonator 1 operating in single-mode. The reflection characteristic was measured at the planar conductive lead 7 using a capacitive coupling between the planar conductive lead 7 and the planar resonator 1. The conductor-free region 5 was an elliptical shape region centred at the intersection of the two vectors 3, 4 and having its major axis parallel to the vector 3 ($\theta = 0°$ or $\theta = 90°$). As disclosed above, in this case no coupling is observed between the two orthogonal resonating modes. According to this the reflection characteristic has only one resonance peak that, in this case, is at a frequency of ≈ [[1,98]] 1.98 GHz with a magnitude of ≈ -4.8 dB.

(17) Please amend the paragraph beginning on page 13, line 32, and ending on page 14, line 4, as follows:

In particular, figure 9 shows the transmission curve T and the reflection curve R of the our pole planar filter 40 of Fig. 6 measured when both the elliptical shape regions of the dual mode planar resonators 43, 44 have an angular position $\theta = 45°$ providing the maximum level of coupling between the two orthogonal resonating modes.

(18) Please amend the paragraph on page 14, lines 5-7, as follows:

As shown in figure 9, the four pole planar filter 40 has a bandwidth Δf of about 76 MHz centred at $f_0 \approx$ [[1,950]] 1.950 GHz.

(19) Please amend the paragraph on page 14, lines 8-13, as follows:

Specifically, the transmission curve T has two zeros at [[1,810]] 1.810 GHz and [[2,118]] 2.118 GHz due to an extra coupling between a mode resonating in the dual mode planar resonator 43 along a direction parallel to conductive lead 41 and a mode resonating in the dual mode planar resonator 44 along a direction orthogonal to conductive lead 42 with respect to Fig. 6.